

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of	) Group Art Unit:
	)
Yongchang Qiu et al	) Examiner:
	)
Appln. No.	)
	)
Filed: October 22, 2001	)
	)
For: ISOTOPE-CODED IONIZATION-	) HAND-DELIVERY
ENHANCING REAGENTS (ICIER) FOR	) January 18, 2002
HIGH-THROUGHPUT PROTEIN	)
IDENTIFICATION AND	)
QUANTITATION USING MATRIX-	)
ASSISTED LASER DESORPTION	)
IONIZATION MASS SPECTROMETRY	)

Assistant Commissioner for Patents  
Washington, DC 20231

**INFORMATION DISCLOSURE STATEMENT**

Sir:

Applicants submit to the Examiner the attached Form PTO/SB/08A/B document listing and this paper pursuant to 37 CFR §1.56 and § 1.97-1.98. Form PTO/SB/08A/B is attached and copies of the references are enclosed herewith.

This Information Disclosure Statement is submitted within three months of the filing date of this application, and prior to receipt of an Office Action on the merits. Therefore, no fees are believed due. However, the Director of the U. S. Patent and Trademark Office is hereby authorized to charge any deficiency in any fees due with the filing of this paper or credit any overpayment in any fees paid on the filing, or during prosecution of this application to Deposit Account No. 08-3040.

The Examiner is respectfully requested to consider the documents identified in this paper and in the attached Form PTO/SB/08A/B during the course of the examination of this application.

Respectfully submitted,

HOWSON AND HOWSON  
Attorneys for the Applicants

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Cathy A. Kodroff  
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Please type a plus sign (+) inside this box → ☐

PTO/SB/08A (08-00)

Substitute for Form 1449A/PTO <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> (use as many sheets as necessary)				<b>Complete if Known</b>	
				Application Number	10/044,708
				Filing Date	October 22, 2001
				First Named Inventor	Yongchang Qiu et al
				Group Art Unit	1743
				Examiner Name	Wallenhorst
Sheet	1	of	2	Attorney Docket Number	GII5412-1AUSA

U.S. PATENT DOCUMENTS						
Examiner Initials <sup>*</sup>	Cite No. <sup>1</sup>	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code <sup>2</sup> (if known)			
mw	AA	4,977,320	B1	S. Chowdhury	12/11/1990	
mw	AB	5,245,186	B1	B. Chait	09/14/1993	
mw	AC	5,288,644	B1	R. Beavis	02/22/1994	
mw	AD	5,453,247	B1	R. Beavis	09/26/1995	
mw	AE	5,643,798	B1	R. Beavis	07/01/1997	
mw	AF	5,792,664	B1	B. Chait	08/11/1998	

FOREIGN PATENT DOCUMENTS								
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Office <sup>3</sup>	Number <sup>4</sup>	Kind Code <sup>5</sup> (if known)				
mw	AL	WO	WO93/24834	A1	B. Chait	12/09/1993		
mw	AM	WO	WO91/04781	A1	R. Beavis	04/18/1991		
mw	AN	WO	WO00/11208	A1	R. Aebersold	03/02/2000		

Examiner Signature	Maurice Wallenhorst	Date Considered	9-22-04
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\* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup>Unique citation designation number. <sup>2</sup>See attached Kinds of U.S. Patent Documents. <sup>3</sup>Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup>For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup>Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup>Applicant is to place a check mark here if English language Translation is attached.

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PTO/SB/08B (08-00)

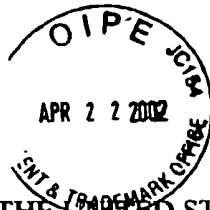
Substitute for Form 1449A/PTO <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> (use as many sheets as necessary)				<b>Complete if Known</b>	
				Application Number	107044,708
				Filing Date	October 22, 2001
				First Named Inventor	Yongchang Qiu et al
				Group Art Unit	1743
				Examiner Name	Wallenhorst
Sheet	2	of	2	Attorney Docket Number	GII5412-1AUSA

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS			
Examiners Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
mw	AR	E. KRAUSE et al, "The Dominance of Arginine-Containing Peptides in MALDI-Derived Tryptic Mass Fingerprints of Proteins", Analytical Chemistry, 71(19)4160-4165 (October, 1999)	
mw	AS	M. MANN, "Quantitative Proteomics?", Nature Biotechnology, 17:954-955 (October, 1999)	
mw	AT	S. SECHI et al, "Modification of Cysteine Residues by Alkylation. A Tool in Peptide Mapping and Protein Identification", Analytical Chemistry, 70(24):5150-5158 (December, 1998)	
mw	AU	S. GYGI et al, "Quantitative Analysis of Complex Protein Mixtures Using Isotope-Coded Affinity Tags", Nature Biotechnology, 17:994-999 (October, 1999)	
mw	AV	D. FENYO et al, "Protein Identification Using Mass Spectrometric Information", Electrophoresis, 19:998-1005 (1998)	

Examiner Signature	Mannen Wallenhorst	Date Considered	9-22-04
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<sup>1</sup>Unique citation designation number. <sup>2</sup>Applicant is to place a check mark here if English language Translation is attached.



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PATENT TRADEMARK OFFICE

GII5412-1AUSA

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of ) Group Art Unit:  
Yongchang Qiu et al ) Examiner:  
Appln. No. 10/044,708 )  
Filed: October 22, 2001 )  
For: ISOTOPE-CODED IONIZATION- ) April 11, 2002  
ENHANCING REAGENTS (ICIER) FOR )  
HIGH-THROUGHPUT PROTEIN )  
IDENTIFICATION AND )  
QUANTITATION USING MATRIX- )  
ASSISTED LASER DESORPTION )  
IONIZATION MASS SPECTROMETRY )

COPY OF PAPERS  
ORIGINALLY FILED

Assistant Commissioner for Patents  
Washington, DC 20231

**SECOND INFORMATION DISCLOSURE STATEMENT**

Sir:

Applicants submit to the Examiner the attached Form PTO/SB/08B document listing and this paper pursuant to 37 CFR §1.56 and § 1.97-1.98. Form PTO/SB/08B is attached and a copy of the cited reference is enclosed herewith.

This Second Information Disclosure Statement is submitted more than three months from the filing date of this application, but prior to receipt of an Office Action on the merits. Therefore, no fees are believed due. However, the Director of the U. S. Patent and Trademark Office is hereby authorized to charge any deficiency in any fees due with the filing of this paper or credit any overpayment in any fees paid on the filing, or during prosecution of this application to Deposit Account No. 08-3040.

## CERTIFICATE UNDER 37 CFR §1.8(a)

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: the Assistant Commissioner for Patents, Washington, DC 20231 on April 11, 2002.

Signature Debra N. GerstemeierTyped or printed name Debra N. Gerstemeier

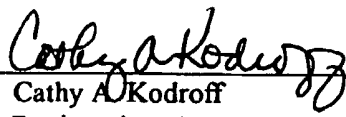
Listed below is a previously filed, co-pending U. S. patent application.  
This patent application and the present application are commonly owned.

- (1) U. S. Patent Application No. 10/045,170, filed October 22,  
2001

The Examiner is respectfully requested to consider the document  
identified in this paper and in the attached Form PTO/SB/08B during the course of the  
examination of this application.

Respectfully submitted,

HOWSON AND HOWSON  
Attorneys for the Applicants

By   
Cathy A. Kodroff  
Registration No. 33,980  
Spring House Corporate Center  
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Spring House, PA 19477  
Telephone: (215) 540-9210  
Telefacsimile: (215) 540-5818



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PTO/SB/08B (08-00)

<b>Substitute for Form 1449A/PTO</b> <b>INFORMATION DISCLOSURE</b> <b>STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)				<b>Complete If Known</b>	
				Application Number	10/044,708
				Filing Date	October 22, 2001
				First Named Inventor	Yongchang Qiu et al
				Group Art Unit	1743
				Examiner Name	Wallenhorst
Sheet	1	of	1	Attorney Docket Number	GII5412-1AUSA

COPY OF PAPERS  
ORIGINALLY FILED

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS			
Examiners Initials <sup>2</sup>	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>3</sup>
mw	AW	Y. QIU et al, "Acid-Labile Isotope-Coded Extractant (ALICE) and its Use in Quantitative Mass Spectrometric Analysis of Protein Mixtures", U. S. Patent Application No. 10/045,170, filed October 22, 2001	

Examiner Signature	Maureen Wallenhorst	Date Considered	9-22-04
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\* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup>Unique citation designation number. <sup>2</sup>Applicant is to place a check mark here if English language Translation is attached.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

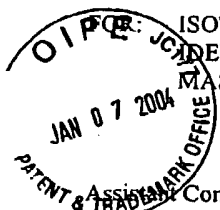
IN RE APPLICATION: YONGCHANG QIU, ET AL.

GROUP ART UNIT: 1642

SERIAL NUMBER: 10/044,708

EXAMINER: UNASSIGNED

FILED: OCTOBER 22, 2001



ISOTOPE-CODED IONIZATION-ENHANCING REAGENTS (ICIER) FOR HIGH-THROUGHPUT PROTEIN IDENTIFICATION AND QUANTITATION USING MATRIX-ASSISTED LASER DESORPTION IONIZATION MASS SPECTROMETRY

INFORMATION DISCLOSURE STATEMENT UNDER 37 C.F.R. 1.97

Assistant Commissioner for Patents  
PO BOX 1450  
ALEXANDRIA, VA 22313-1450

Sir:

Applicant(s) wish(es) to disclose the following information.

REFERENCES

- Applicant(s) wish(es) to make of record the documents listed on the attached International Search Report (except AJ, AK and AL which are already of record) and Form PTO-1449. Copies of the listed documents are attached, where required, as are either statements of relevancy or any readily available full or partial English translations of any non-English-language documents.

RELATED CASES

- Attached is a list of Applicant's(s') pending applications and issued patents which may be related to the present application. Copies of the documents, where required, are attached along with Form PTO-1449.

CERTIFICATION

The undersigned certifies that

- each item of information contained in this Information Disclosure Statement was cited in a communication from a foreign or international patent office in a counterpart foreign or international application for the first time (to the knowledge of the undersigned, having made reasonable inquiry) not more than three months prior to the filing of this statement.
- no item of information contained in this Information Disclosure Statement was cited in a communication from a foreign or international patent office in a counterpart foreign or international application or, to the knowledge of the undersigned, having made reasonable inquiry, was known to any individual designated in 37 C.F.R. 1.56(c) more than three months prior to the filing of this statement.

BASIS FOR CONSIDERATION

This Information Disclosure Statement is filed:

- without fee and within three months of the filing date of the application.
- without fee and within three months of the date of entry of the U.S. national stage.
- without fee and before the mailing date of a first Office Action on the merits (to the knowledge of the undersigned).
- without fee and with the appropriate certification above.
- without fee and with a new CPA application.
- without fee and with a Request for Continued Examination.
- with fee and before the mailing date of any of a Final Office Action, Notice of Allowance or an action that otherwise closes prosecution (to the knowledge of the undersigned).
- with fee, appropriate certification above, and before payment of the Issue Fee.

DEPOSIT ACCOUNT

- Please charge any additional fees for the papers being filed herewith and for which no check is enclosed herewith, or credit any overpayment to Deposit Account No. 50-1442.

Respectfully submitted,  
PIPER RUDNICK LLP

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Attorney of Record  
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Form PTO 1449 (Modified)  
U.S. DEPARTMENT OF  
COMMERCE  
PATENT AND TRADEMARK  
OFFICE

DOCKET NO.

9550-019-27

SERIAL NO.

10/044,708

APPLICANT

YONGCHANG QIU, ET AL.

FILING DATE

OCTOBER 22, 2001

GROUP ART UNIT

1642 1743

LIST OF REFERENCES CITED BY APPLICANT  
(Use Several Sheets if Necessary)

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
	AA						
	AB						
	AC						

## FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	TRANSLATION YES NO
MW	AD	WO 02/48717	6-20-2002	WIPO	
	AE				
	AF				
	AG				
	AH				

## OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, Etc.)

MW	AI	Mckendrick, et al., "Rapid Mass Spectrometric Determination of Preferred Irreversible Proteinase Inhibitors in Combinatorial Libraries", International Journal of Mass Spectrometry, 176(1-2):113-124 (1998).
	AJ	<del>Sechi et al., "Modification of Cysteine Residue By Alkylation. A Tool in Peptide Mapping and Protein Identification", Analytical Chemistry, American Chemical Society, 70(24):5150-5158 (1998). Previously cited.</del>
	AK	<del>Gygi et al., "Quantitative Analysis of Complex Protein Mixtures Using Isotope-Coded Affinity Tags", Nature Biotechnology, 17(10):994-999 (1999). Previously cited.</del>
MW	AL	Krause et al., "The Dominance of Arginine-Containing Peptides in MALDI-Derived Tryptic Mass Fingerprints of Proteins", Analytical Chemistry, 71(19):4160-4165 (1999). Previously cited.
MW	AM	Brancia, et al., "Improved Matrix-Assisted Laser Desorption/Ionization Mass Spectrometric Analysis of Tryptic Hydrolysates of Proteins Following Guanidination of Lysine-Containing Peptides", Rapid Communications in Mass Spectrometry, 14(21):2070-2073 (2000).
MW	AN	Kratzer, et al., "Suppression Effects i Enzymatic Peptide Ladder Sequencing Using Ultraviolet - Matrix Assisted Laser Desorption/Ionization - Mass Spectrometry", Electrophoresis, 19(11):1910-1919 (1998).

EXAMINER Maureen Wallenhorst

DATE CONSIDERED 9-22-04

\*EXAMINER: Initial if reference is considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.